

IUPAC naming

QUESTION: i) Write the IUPAC name for each organic substance and ...

ii) name the homologous series that the substance is in

iii) circle the functional group of each substance

$\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$	$\begin{array}{c} \text{CH}_3\text{CHCH}_2\text{OH} \\ \\ \text{Cl} \end{array}$	$\begin{array}{c} \text{CH}_2\text{CHCH}_2\text{CH}_2\text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$
$\begin{array}{c} \text{Cl} \\ \\ \text{H}_3\text{C}-\text{C}-\text{CH}_3 \\ \\ \text{Cl} \end{array}$	$\begin{array}{ccccccc} \text{H} & \text{H} & \text{H} & \text{H} & & \text{O} \\ & & & & & // \\ \text{H}-\text{C} & -\text{C} & -\text{C} & -\text{C} & -\text{C} & \\ & & & & \backslash \\ \text{Br} & \text{H} & \text{H} & \text{CH}_3 & \text{OH} \end{array}$	$\begin{array}{c} \text{H} \\ \\ \text{N}-\text{CH}_3 \\ \\ \text{H} \end{array}$
$\text{CH}_3-\text{CH}_2-\text{CH}_2-\underset{\text{Cl}}{\text{CH}}-\text{CH}_3$	$\text{CH}\equiv\text{C}-\text{CH}_3$	$\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{COOH}$
$\text{CH}_3-\text{CH}_2-\text{COOH}$	$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3-\text{CH}_2-\text{CH}-\text{CH}_3 \end{array}$	$\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{NH}_2$
$\begin{array}{c} \text{CH}_3-\text{CH}-\text{C}=\text{CH}-\text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	$\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{Br}$	$\text{CH}_3\text{CH}_2\text{C}\equiv\text{CCH}_3$

$\text{CH}_3-\text{CH}_2-\underset{\text{Cl}}{\text{CH}}-\text{CH}_2-\text{Cl}$	$\text{CH}_3-\text{CH}_2-\underset{\text{Br}}{\text{CH}}-\underset{\text{Br}}{\text{CH}_2}$	$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{CH}-\text{CH}_2-\text{CH}_2-\text{OH} \end{array}$
$\text{H}_3\text{C}-\text{CH}_2-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_2-\text{OH}$	$\text{FH}_2\text{C}-\underset{\text{OH}}{\overset{\text{O}}{\text{C}}}$	$\text{CH}_3-\text{C}\equiv\text{C}-\text{CH}_2-\text{CH}_3$
$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{C}-\text{CH}_2-\text{OH} \\ \\ \text{CH}_3 \end{array}$	$\begin{array}{c} \text{CH}_3 \quad \text{O} \\ \quad \parallel \\ \text{H}_3\text{C}-\text{C}-\text{CH}_2-\text{C}-\text{OH} \\ \\ \text{CH}_3 \end{array}$	$\text{CH}_3-\text{CH}_2-\underset{\text{O}}{\overset{\parallel}{\text{C}}}-\text{OH}$
$\begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_2-\text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	$\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{Cl}$	$\begin{array}{c} \text{OH} \\ \\ \text{H}_3\text{C}-\text{CH}_2-\text{CH}-\text{CH}_3 \end{array}$
$\begin{array}{c} \text{OH} \\ \\ \text{CH}_3-\text{CH}-\text{CH}-\text{CH}_3 \\ \\ \text{Cl} \end{array}$	$\begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_2-\text{CH}_2-\text{NH}_2 \\ \\ \text{CH}_3 \end{array}$	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_3\text{C}-\underset{\text{Cl}}{\text{CH}}-\text{CH}_2-\text{C}-\text{OH} \\ \\ \text{OH} \end{array}$

$\begin{array}{c} \text{CH}_3 - \text{C} = \text{CH}_2 \\ \\ \text{Br} \end{array}$	$\begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C} - \text{CH}_2 - \text{C} - \text{COOH} \\ \\ \text{H}_2\text{N} \end{array}$	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{C} - \text{OH} \\ \\ \text{O} \end{array}$
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Additional questions...

1) The compound **2-chloro-4-ethylpentane** has been named **incorrectly**.

(a) Draw the structure implied by the name

(b) Explain why the given name is incorrect

(c) Write the correct IUPAC name

2) Vitamin A has the structure shown below. Circle and name TWO **different** functional groups in the Vitamin A molecule above.

